

SEPTEMBER • 1959

American Vegetable Grower

and MARKET GROWERS JOURNAL

They Decided on
Volume Selling

Latest on
Dwarf Tomatoes

New Lettuce Is
Mildew-Resistant

Keep Your Greenhouse
in Tiptop Shape

STAC

Why We Need Improved Vegetable Varieties



Edwin, Albert, and James Pope (left to right) find Firestones outwear any other truck tires they've tried.

"WE GET A LOT MORE THAN LUCK WITH FIRESTONES!"

says Albert Pope, the Pope Brothers, Harrison, Ohio. "My brothers and I have found Firestone Transport tires hold up better than any truck tires we've used. They give good service in original wear and retreads—we get a lot more than just plain luck with Firestones. And Ralph Collier of Taylor Bros., our Guilford, Indiana, Firestone Dealer, gives us fine service."

Farmers all over the country are finding Firestone truck tires save them money! It's only natural, too, because they're built with Firestone Rubber-X, the longest wearing rubber ever used in Firestone tires! With Firestone S/F (Shock-Fortified) cord, they stand up to the hardest knocks farm tires have to take! And there's a Firestone tire for every farm truck from half-ton pickups to heavyweight haulers. If you want extra low-cost mileage for farm to market runs, buy the famous Firestone Transport tire. For positive traction

in muddy feed lots, on slippery roads, or in soft fields, economical Firestone All Traction or Super All Traction tires are your best buy.

See your Firestone Dealer or Store and find out how Firestone truck tires give you extra service at no extra cost! See the complete line of Firestone tractor and implement tires, too. And remember, the Firestone Free New Tractor Tire Loaner Service keeps your tractors working while your Firestone Dealer or Store retreads or repairs your old tires.

CONVENIENT TERMS

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BETTER RUBBER FROM START TO FINISH

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All our
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SEPTEMBER

**HARRIS
SEEDS**

Fred Rath notes the uniformity and fine type of Harris' new Market Master. He especially likes its excellent blue-green color.



For Extra Vigor, Greater Uniformity, Better Market Type— GROW THESE NEW HARRIS HYBRIDS



Harris' Resistant Danish produces heavy yields of the kind of heads that bring top prices.

All our cabbage seed is Hot Water Treated for control of black leg and black rot.

Two outstanding F1 hybrid cabbages of Danish type, developed by the Harris plant breeders who gave you North Star Sweet Corn and Moreton Hybrid Tomato. For introductions like these that set the pace on many markets, more growers every year depend on HARRIS SEEDS.

MARKET MASTER

Early Danish Hybrid—A true hybrid, producing big yields of clean, firm heads. Excellent blue-green Danish color, remarkably uniform and slightly flattened, medium in size and of superior type. Erect wrapper leaves. Ready to cut in about 80 days, at least a week or ten days ahead of the late Danish types. Yellows resistant. (Combines one parent from Cornell University with a Danish inbred of our own.)

HARRIS' RESISTANT DANISH

Finest Market Type—The first F1 hybrid Danish and a big success with growers who tried it last year. Round, solid heads of ideal Danish type and size are ready several days earlier than our regular Danish. Its extra vigor and uniformity mean bountiful crops and it is resistant to yellows.

For complete details on these and many other top market varieties, write for your **FREE** copy of Harris' 1960 Market Gardeners' and Florists' Price List, ready about December 1. In the meantime, if you want more information on these cabbages, please write and we will be glad to supply it. Seed will be available in early fall.

JOSEPH HARRIS CO., INC. 74 Moreton Farm, Rochester 11, N. Y.



More money from your squash crop . . .



"We recommend Robinson's Early Yellow Summer Crookneck!" says Ward Robinson, speaking for his staff of experienced breeders of more than thirty varieties of quality summer squash. "Plant breeders know that summer squash is just about the hardest of all vegetables to grow for quality blood lines. But years of my family's specialization in breeding squash for maximum yield and quality is your assurance of a bigger dollar return when you plant Robinson Vine-seeds, with the bright blue SRS label! And don't hesitate to drop me a line if you'd like to know more about any of our strains."

LAWRENCE ROBINSON & SONS
SRS Member-Breeder of vine-seeds

SEED

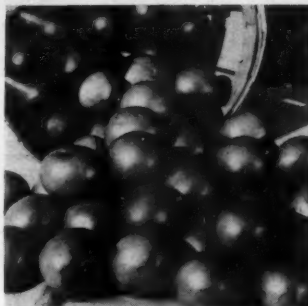
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American Vegetable Grower



Reg. U.S. Pat. Off.
Commercial Vegetable Grower
Market Growers Journal

VOL. 7

No. 9

SEPTEMBER, 1959

Cover photograph by J. C. Allen and Son
shows tomatoes spilling out of bushel basket.

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E. G. K. MEISTER, Publisher
RICHARD T. MEISTER, Editor

Managing Editor, E. K. GOULD. Associate Editors: H. B. TUKEY, ELDON S. BANTA.
Consulting Editors: R. L. CAROLUS, M. P. RASMUSSEN, JOHN CAREW, PAUL WORK.
Art Director, GEORGE M. ROSS. Production Manager, J. S. BENDER.

EDWARD L. MEISTER, Director of Advertising

District Advertising Offices

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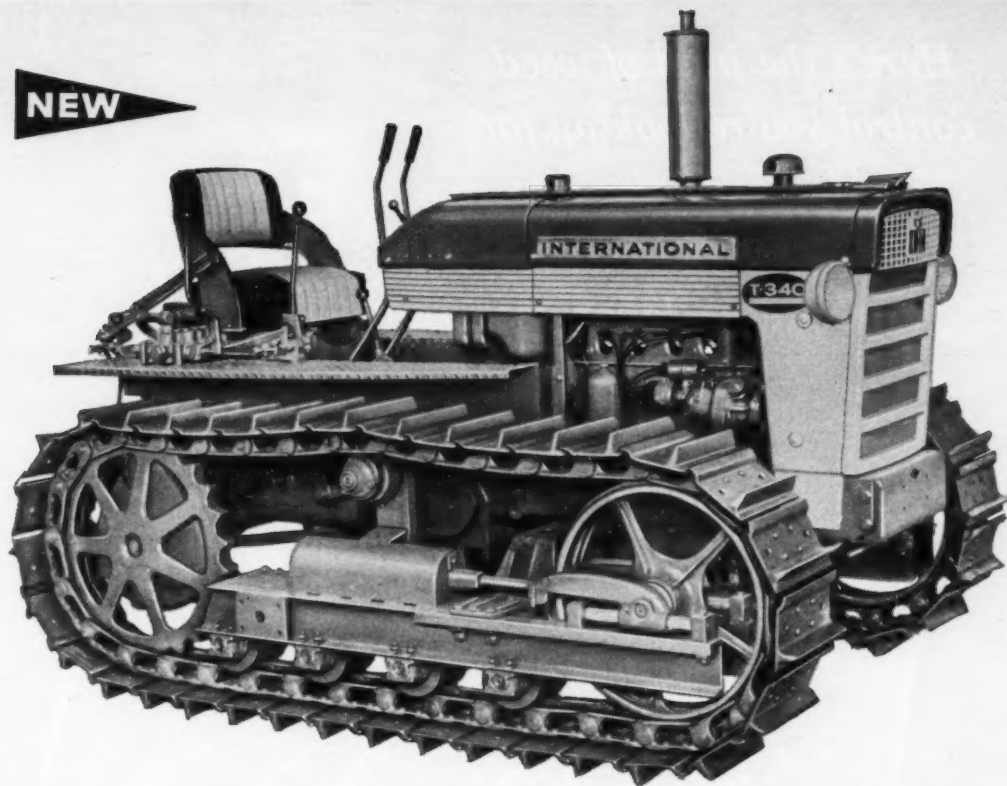
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AMERICAN VEGETABLE GROWER

NEW



Now...a 10-speed crawler

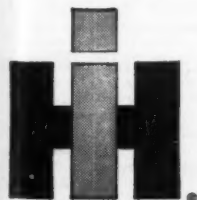
**New International® T-340
with TA outworks all other 3-4-plow
crawlers on your truck farm!**



Try the big difference

Farm a gear faster with 10-speed Torque Amplifier drive! Get field proof that the smooth IH 4-cylinder engine delivers as much as five more drawbar horsepower than other crawlers in its class. Ask your IH dealer to demonstrate planetary steering, powerful, high-volume hydraulics, and all the other big crawler features of the T-340!

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PAYMENTS TO
YOUR INCOME**



See Your

INTERNATIONAL HARVESTER

International Harvester Products pay for themselves in use—Farm Tractors and Equipment...Twine...Industrial Tractors...Motor Trucks...Construction Equipment—General Office, Chicago 1, Illinois.

Dealer

Get over more ground... start crops earlier with a new 10-speed International T-340 crawler!

Famous Torque Amplifier drive hustles your work with 10 speeds forward—two in each gear! And it boosts pull-power up to 45% on-the-go to help you cross soft spots that slow early spring work, or make full-load, U-turns without shift-down delay. Teamed with independent pto, TA also gives pto-sprayers top performance at any speed from 1 to 5.9 mph!

Broad, 5½-foot-long tracks give the T-340 ground-gripping traction even in slippery going. And these light-treading tracks don't pack damp spots or fluffy seedbeds. You can get the T-340 with swinging drawbar or handy 3-point hitch to match your equipment.

Here's the kind of weed
control you're looking for!
Vegadex® can give you
weed-free fields like this,
save hand labor, too.



MONSANTO'S "RED" EMM shows how one spraying of Vegadex cleaned weeds out of this spinach field without hand-weeding.

This new chemical weeder for vegetables works for you in a new way. You spray it on your soil once, at planting time. Vegadex kills annual grasses (even tough weeds like purslane and henbit) before they sprout—but vegetables come up unharmed. Growers all over the country report saving \$20 to \$100 an acre on weeding costs. Read what these growers say:

"Vegadex sprayed on our lettuce not only saved weeding costs, but reduced our fertilizer and water costs. Vegadex cut down disease and insect damage, too."

Mr. Emery E. Evans,
Sumerton, Arizona

"For the past two years I've sprayed Vegadex on my celery and got real good weed control. Vegadex saved me plenty

on this crop and I plan to use it from now on in."

Mr. John Smit,
Hudsonville, Michigan

"Vegadex gives us excellent weed and grass control on our leaf crops. It's a real money-saver. We feel Vegadex will be part of our operation for years to come."

Mr. Ken Jorgensen,
Zellwin Farms Co.,
Zellwood, Florida

Vegadex controls . . . purslane, careless weed, henbit (blueweed), pigweed, crab grass, barnyard grass (water grass), bull grass (goose grass), chickweed, foxtails, annual bluegrass.

Vegadex is safe for . . . collards, mustard greens, turnip greens, broccoli, cabbage, snap beans, soybeans, celery, sweet corn, kale, spinach, hanoover salad, Brussels sprouts, lima beans, lettuce, garden beets, cauliflower, and field corn.

For More Information
On How Vegadex Works
In Your Area,
Mail Coupon Today!



MONSANTO CHEMICAL COMPANY
Organic Chemicals Division
Agricultural Chemicals Department
St. Louis 66, Missouri

Please send me more information on Vegadex.

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AMERICAN VEGETABLE GROWER

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Research

Dear Editor

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Fresno Agricult

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Livingston—Sun

Los Angeles—L

Durham Chemi

Milpitas—Sun

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Sacramento—S

Salida—Sunlan

Salinas—Soile

San Joaquin—S

San Jose—Moy

Santa Cruz—S

Sebastopol—Su

South Gate—L

Stockton—Sun

Tranquillity—S

Tulare—Sunlan

Tulelake—Oreg

Wasco—Sunlan

COLORADO

Longmont—Fa

CONNECTICUT

Shelton—Axtol

FLORIDA

Fort Pierce—V

Davison Che

SEPTEMBER,

LETTERS TO THE EDITOR

Research Method

Dear Editor:

Current attempts to solve our farm problems of overproduction are getting us nowhere, while one plan that really holds promise and makes sense has hardly been mentioned.

We keep on with a crazy pattern of solution: the government pays farmers for idle acres; it buys up their extra bushels of grain which it has no real use for, and must spend a million dollars, not a year or a month but a day, to rent space in which to store these products. At the same time farm journals, TV advertising, etc., continue stressing ways to increase production through better seed, better weed killers, insecticides, closer planting rows, and prizes for high yields per acre!

Instead, why isn't this publicity focused upon a vastly enlarged program of agricultural research to find new uses for farm products, or to speed up the development of projects already started so that it won't be necessary to eat all the food the farmer grows or feed it to stock?

Scientific reports have suggested the possibility that our farms could grow our fuel oils, our highway surfaces, our houses, our automobile bodies, and who knows what else. Think how surpluses would melt if any such break-through occurred!

Why don't editors of farm journals investigate and report what projects are being worked on so as to arouse public demand that money be spent for this truly constructive method? Why don't farmers' organizations appeal to Secretary Benson to lead such a movement for faster results? He has said he favors the research method. True, research work cannot be hurried, but it can be stressed by having many more minds working at it.

Bloomington, Wis.

F. E. Austin

Cover Farm

Dear Editor:

The cover of the April, 1959 issue of AMERICAN VEGETABLE GROWER surprised our locality with the picture of one of Eden Valley's prominent vegetable growers in the process of planting and capping squash. Amos J. Zittel, owner of the farm pictured, is a devoted and successful farmer who, along with his sons and capable hired hands, is carrying on extensive operations in this fertile, highly productive section of southwestern New York state.

Mr. Zittel is one of the leaders of this area in vegetable production. He, along with several other prominent vegetable growers here, sparked the organization of about 20 area farms and formed a co-op under the name, Eden Valley Growers, Inc., of which I am also a member.

Eden Valley Growers, Inc., is farmer owned and has wide distribution of vegetables and fruits to local stores and chains, and also covers a wide area of out-of-state shipping under the direction of an able manager-salesman.

Hamburg, N. Y.

Kenneth Henry

Prize Pumpkins

Dear Editor:

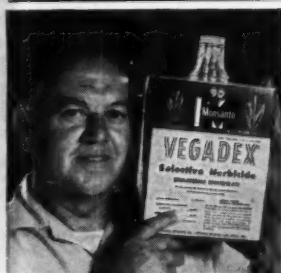
Here is one of six pumpkins I grew this past year. Total weight of the six was 505 pounds; average weight 80 to 95 pounds each. My pumpkins took first prize at our



state fair in 1957 and 1958. They have excellent cooking quality, are a deep, smooth orange color, and keep all winter.

Seagrove, N. C.

L. B. Craven



MONSANTO'S "RED" EMM SAYS:

**VEGADEX is available now
through the following distributors:**

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Glendale—Arizona Agro Phosphate Company
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Sanland Industries, Inc.
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Coachella—Durham Chemical Company
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Fresno Agricultural Chemical Co.
Sunland Industries, Inc.
Livingston—Sunland Industries, Inc.
Los Angeles—L. H. Butcher Company
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Porterville—Sunland Industries, Inc.
Sacramento—Sunland Industries, Inc.
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Tranquillity—Sunland Industries, Inc.
Tulare—Sunland Industries, Inc.
Tulare—Oregon Agricultural Chemicals
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Longmont—Farm Chemical Company

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Jacksonville—Florida Agricultural Supply Co.
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Fort Wayne—Inland Chemical Corporation
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Indianapolis—Indiana Farm Bureau Co-op
Association, Inc., Farm Chemical Section
Williamsport—Masters Equipment Service

IOWA

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Des Moines—Standard Seed Company

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Louisville—Louisville Chemical Company

LOUISIANA

Houma—Bel Chemical & Supply Co., Inc.

MARYLAND

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Exchange
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Control FUNGUS DISEASES



**Tri-Basic
(MICRONIZED)
COPPER SULFATE**

A chemically stable copper fungicide containing not less than 53% metallic copper . . . for spraying or dusting truck and citrus crops. Especially effective in controlling persistent fungus diseases through application of Tri-Basic Copper Sulfate before fungus attacks.



**COP-O-ZINK
(A Neutral Copper-
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For disease control and prevention. Particularly effective on potatoes. Also on many vegetable and fruit crops. Cop-O-Zink is excellent for correcting Copper and Zinc deficiencies and for stimulating plant growth. Contains 48% Copper and 4% Zinc. Applied to foliage in spray or dust form.



FUNGICIDES AND AGRICULTURAL CHEMICALS

There's a superior TC product to correct most nutritional deficiencies and TRI-BASIC COPPER SULFATE to prevent and control certain persistent fungus diseases.

Correct NUTRITIONAL DEFICIENCIES

**NU-IRON
(Nutritional Iron)**

A neutral Iron compound containing 30% Iron as metallic. Chelated Iron 10% as metallic—applied to foliage of plants for correction of Iron deficiencies.

**NU-MANESE
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An extremely effective nutritional manganese product for correcting manganese deficiencies due to low manganese content of the soil . . . applied as a spray or dust to the foliage, direct broadcast to the soil or in mixed fertilizers.

**NU-Z
(Nutritional Zinc)**

Nu-Z contains 52% metallic zinc. Applied directly to the plant in spray or dust form . . . stimulates plant growth and corrects zinc deficiencies.

ES-MIN-EL

The ESsential MINeral ELements—contains Manganese, Copper, Iron, Zinc, Boron and Magnesium, all essential to healthy, productive soil. Fruits and vegetables rich in vitamins cannot grow in soil poor in minerals. For soil application. Es-Min-El in spray or dust form for direct application to the plants is also available. Contains nutritional Manganese, Zinc and Copper.

WE WILL CUSTOM MIX MINERAL MIXTURES TO YOUR OWN SPECIFICATIONS IN LARGE OR SMALL QUANTITIES.

For information on
These Fungicide and
Nutritional Products,
Write, Wire or Phone Us.



TENNESSEE CORPORATION

617-29 Grant Building, Atlanta, Georgia

CALENDAR OF COMING MEETINGS AND EXHIBITS

Sept. 4-12—New York State Fair, Syracuse.
Sept. 13-16—Produce Packaging Association 9th annual convention and exposition, Sheraton Hotel, Philadelphia, Pa.—Robert L. Carey, Exec. Sec'y, South College Ave., Newark, Del.

Sept. 14-16—United Fresh Fruit and Vegetable Association annual merchandising and marketing conference, Drake Hotel, Chicago, Ill.—Association headquarters, 777 14th St. N.W., Washington 5, D. C.

Sept. 14-16—Texas Citrus and Vegetable Growers and Shippers meeting, Hotel Statler Hilton, Dallas.—Austin E. Anson, Exec. Vice-Pres., 306 East Jackson, Harlingen.

Sept. 23-25—Florida Fruit and Vegetable Association meeting, Hotel Fontainebleau, Miami Beach.—Joffre C. David, Sec'y-Treas., Orlando.

Oct. 4-7—National Association of Marketing Officials annual convention, Asheville, N.C., and Atlanta, Ga.—Wm. A. Wunsch, Pres., State College, N.M.

Oct. 27-29—Florida State Horticultural Society 72nd annual meeting, Everglades Hotel, Miami.—S. John Lynch, Pres., 29800 Newton Rd., Homestead, Fla.

Oct. 27-29—Western Growers Association meeting, Ambassador Hotel, Los Angeles, Calif.—Frank E. Castiglione, Sec'y, 3091 Wilshire Blvd., Los Angeles 6.

Nov. 4-5—Wisconsin Potato Show, Langlade County Highway Bldg., Antigo.—Harold R. Simons, Exec. Sec'y, Wisconsin Potato Growers Assn., Fidelity Savings Bank Bldg., Antigo, Wis.

Nov. 12—Washington State Council of Farmer Co-operatives annual meeting, Hotel Chinook, Yakima, Wash.

Nov. 17-19—National Potato Council meeting, La Salle Hotel, Chicago, Ill.—A. E. Mercker, Executive Director, 542 Munsey Bldg., Washington, D.C.

Nov. 19—New Jersey Marketing Institute annual meeting, Princeton.—Tunis Denise, Freehold, Pres., New Jersey Agricultural Society.

Nov. 19-23—New York State Experiment Station, Open House, Geneva.—Dr. A. J. Heinicke, Station Director, Geneva.

Nov. 30-Dec. 3—Entomological Societies of America, Canada, and Ontario First Joint Meeting, Sheraton-Cadillac Hotel, Detroit, Mich.—Arnold Mallis, Gulf Research & Development Co., P.O. Drawer 2038, Pittsburgh 30, Pa.

Dec. 3-4—3rd Annual Ohio Potato Growers' Short Course, Ohio Agricultural Experiment Station, Wooster.

Dec. 6-10—National Junior Vegetable Growers Association convention, Roosevelt Hotel, Washington, D. C.—Grant Snyder, National Chairman, French Hall, University of Massachusetts, Amherst.

Dec. 7-9—Washington State Horticultural Association annual meeting, Wenatchee.—John C. Snyder, Sec'y, Pullman, Wash.

Dec. 7-10—Vegetable Growers Association of America annual convention, Dennis and Shelburne Hotels, Atlantic City, N.J.—R. M. Frederick, Exec. Sec'y, 528 Mills Bldg., 17th St. and Pennsylvania Ave., N.W., Washington 6, D. C.

Jan. 25-30—New Jersey Farmers Week, Trenton.

Feb. 1-3—Ohio Vegetable and Potato Growers Association annual meeting, Neil House, Columbus.—E. C. Wittmeyer, Sec'y, 1827 Neil Ave., Columbus.

Feb. 3-5—Ohio State Horticultural Society annual meeting, Neil House, Columbus.—C. W. Ellenwood, Sec'y, Rt. 2, Wooster.

April 14-15—2nd Western Conference on Post Harvest Physiology and Biochemistry, Univ. of Calif., Davis.—Public Service Office, Univ. of Calif., Davis.

TOMATO YEARBOOK

THE 1959 edition of *American Tomato Yearbook* edited by Dr. John W. Carncross, College of Agriculture, Rutgers University, is now available and can be obtained from American Tomato Yearbook, 8 Elm St., Westfield, N. J. An individual copy sells for \$2.00; a complete set in one volume, 1951-59, for \$12.00.

The Yearbook contains vital information for anyone interested in the tomato industry. It is illustrated with charts, graphs, and pictures.

AMERICAN VEGETABLE GROWER

COMING HIBITS

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Because it bears without let-up, for continuous harvest, this improved strain produces heavier yields of No. 1 fruit than regular Yolo Wonder. Upright plants provide denser foliage cover for pendent borne fruits, and are resistant to Tobacco Mosaic. Fruit is predominantly 4-lobed, thick-walled and blocky. Stock up now for the coming season.

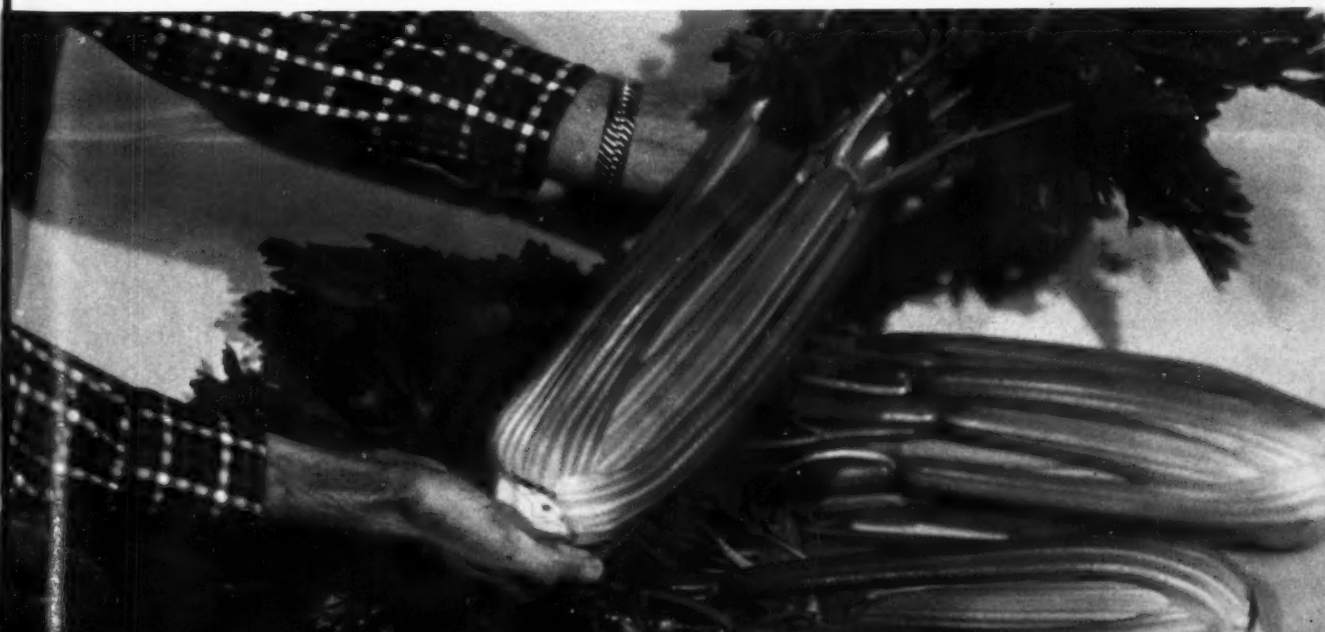


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SEPTEMBER

American Vegetable Grower



Remember when sweet corn had irregular rows of uneven kernels? That was a quarter century ago. Today SixtyPak (above), a disease-resistant hybrid, shows uniform rows and kernels.

Remodeling Our VEGETABLE VARIETIES

Plant breeders keep busy improving varieties
to help growers meet changing market demands

By **FLOYD L. WINTER**
Associated Seed Growers, Inc.

LOOKING through an old seed catalog can be a sobering experience. Not long ago, I was doing just this with an Asgrow catalog issued in 1933. For the fun of it, I checked through to see which varieties in that old list are still in commercial use today. The results were astonishing; beginning with snap beans and ending with watermelons, a vast array of vegetable varieties has passed into history.

From a list of nearly 50 sweet corn varieties, only Golden Cross Bantam, then a brand new hybrid, still remains. Among 45 snap bean varieties, only Tendergreen and Bountiful survive. All but one or two onion varieties have been replaced. None of the slicing-type cucumbers is now grown commercially, and not one of the 35 tomato varieties still figures in the fresh produce picture.

Long, slender carrots were just coming into the scene; all the iceberg-type lettuce varieties have been replaced by Great Lakes and related strains. The 25 or so watermelon

varieties have vanished from the market.

What has brought about these changes?

For one thing, more people with more money to spend for food, stimulated by modern ideas about diet, have increased their consumption of vegetables. Even our tiny babies start out on processed vegetables hardly having gotten used to the taste of milk!

For another, we have seen a tremendous push to the suburbs in the years since World War II. This has led to a decline in the number of local fresh market gardeners and their economic importance has decreased.

At the same time, whole new regions have been opened up for vegetable farming—in southern Florida and elsewhere in the Southeast, in the Texas Panhandle, in the central valleys of California, the North Central states—all located many miles from the consumer.

Closely related have been the technology changes in vegetable farming. Mechanical harvesting, made necessary by the scarcity and high cost of farm labor, has made it imperative to grow crops that mature with a maximum of uniformity so that they can

ABOUT THE AUTHOR

Dr. Winter recently celebrated 25 years as a plant breeder in the vegetable seed industry. Since many things have taken place in the last quarter century from the plant breeder's standpoint, we asked Dr. Winter to bring us up-to-date on varieties. His article lifts the curtain, too, on what we may expect in the next quarter century.
—Ed.

be harvested all at once. In the packing shed other new specifications have come into importance: uniformity of size and shape; adaptability to pre-packaging; ability to withstand rough handling and long distance shipping.

Behind all these changes is the plant breeder, designing and building a whole new structure of plants to meet the specifications of modern farming, marketing, and distribution.

Here are some of his major achievements, beginning with beans and ending with watermelons:

Beans. Disease-resistant varieties have now largely replaced the old reliables of the snap bean industry, with many varieties bred for particular features, such as pod shape, seed color, and uniform maturity. The one major factor remaining for the plant breeder to deal with is eating quality.

(Continued on page 24)

DWARF TOMATOES...

Will They Revive Indiana's Tomato Industry?

New varieties—easy to pick by hand or machine—promise a bright future for Hoosier growers

By E. C. STEVENSON, M. L. TOMES,
and K. W. JOHNSON

Purdue University, Lafayette, Ind.

THE use of dwarf-type plants of various species is receiving more attention every year from both growers and research workers. Dwarfs are not new; dwarf or bush-type vegetables such as peas, snap beans, and lima beans have enjoyed commercial importance for many years.

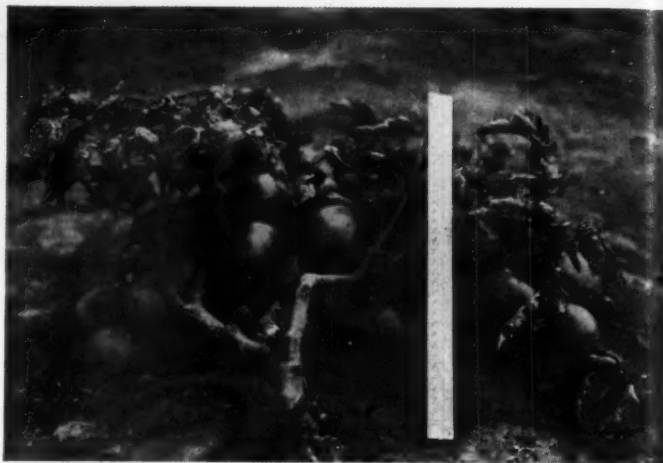
Ever since the tomato was removed from the poisonous plants list and transferred from the ornamentals garden to the vegetable garden, the standard-vined or indeterminate tomato, as it is known to the research worker, has been the principal type grown for market and home gardening and for the canning factory.

Various kinds of dwarf and semi-dwarf tomatoes have been offered to the grower, but most of these, with the exception of the determinate vined ones, have never become important commercially. The failure can probably be attributed to the small fruit size, poor quality, low yields, and poor vine cover.

The canning tomato industry in the Midwest, and particularly in Indiana, has suffered rather severe setbacks in the last 10 years. At one time there were approximately 200 canning factories in Indiana and the acreage approached 100,000. At present the number of canneries has been reduced to about 65 and the acreage is under 30,000.

Increased yields would be a great help in brightening the tomato production picture in the Midwest. The average yield per acre for the state of Indiana has varied from 7 to 10 tons.

Another improvement would be mechanical harvesting. Currently, about one-third of the cost of production of a ton of tomatoes goes into labor for hand picking. Development of



12-inch ruler emphasizes the smallness of the dwarf plant. Note that the fruit is abundant and as large as that of normal plants.



Dr. K. W. Johnson, left, and Dr. M. L. Tones examine the yield in a plot of dwarfs at the Purdue University Experiment Station.

mechanical picking devices goes hand in hand with development of new varieties. Existing varieties have presented serious problems for mechanical equipment because of the mass of vines. Tomato breeders have been trying to get varieties showing increased productiveness, but, working within the available standard types of tomatoes, it has been impossible to make any really outstanding advances.

Researchers at Purdue University are working for a combined solution to the problems of yield and harvesting through the use of dwarf-type tomatoes. The term "dwarf" refers

(Continued on page 29)



Preliminary version of mechanical tomato harvester. John Ballis, project engineer, expects newer model to be ready for testing this year.

AMERICAN VEGETABLE GROWER

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MARKETING

How 12 Potato Growers Handle VOLUME SELLING

**By pooling their efforts Delaware growers
have established repeat business for
quality potatoes**

By H. J. EVANS

WHEN the urban areas expand to the rural sections, the farmers migrate to more fertile fields. That's how Delaware is being changed from a dairy state to one of the important potato-producing states on the eastern seaboard.

The state has experienced an influx of Long Island, New Jersey, and Pennsylvania potato growers, many of whom left farms in those areas because of real estate developments. They are, for the most part, young fellows who are experienced in potato growing, and are progressive enough to realize that, today, marketing is one of the most important factors in successful potato production. They know that the trend is toward bigger and fewer buyers, and that the only way to meet this kind of buying is by offering volume selling.

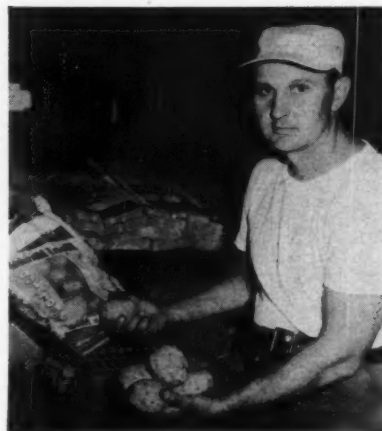
In 1956, 12 growers organized Delaware Produce Growers, Inc., and purchased as their headquarters a building previously used for the sale of tomatoes. These 12 growers, representing about 1500 acres, had sufficient volume to hire salesmen to move the crop. All growers now pack under the Mealmaster brand name, putting up a white package of U. S. No. 1 grade, inspected potatoes. The Inspection Certificate is attached to most shipments to establish grade and to assure satisfaction.

In three years the reputation of Mealmaster has been established by repeat business each harvest season during July and August. Delaware potatoes come into market before the end of the so-called "Eastern Shore" potatoes and are earlier than the New Jersey Crop.

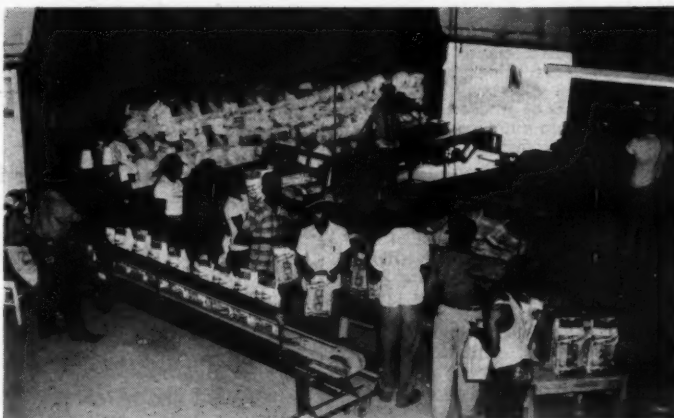
Buyers are encouraged to place orders in advance for freshly dug and graded potatoes which the growers can supply without any difficulty since

12 are harvesting at the same time. This system works two ways; the sales department can plan to get its produce to market at the right time and perhaps make a better selection for quality, and the buyer is assured fresh potatoes at the time he wants them.

Since Delaware potatoes mature in two of the hottest summer months, there is a preservation problem in shipping. To solve this, growers dig late in the afternoon, permit the potatoes to cool in field bags in the field over night picking them up and grad-



Joe Jackewicz, a quality-minded grower who takes pride in his package of Mealmasters, is president of Delaware Produce Growers, Inc.



In well-ventilated packing shed about 2000 10-pound bags can be filled in hour. Up-to-date equipment, nimble fingers of Puerto Rican laborers make this possible.

ing them in the early morning before the heat of the day takes over.

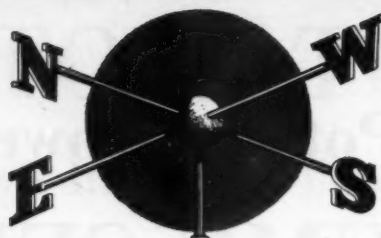
Last year, further precooling was accomplished by lowering the temperature of the potatoes to about 50° by means of portable coolers placed in the trailers after loading. This precooling eliminates icing in transit; however, all potatoes that go out by truck without this preliminary cooling are iced before and during transit.

Delaware Produce Growers, Inc., is proud of its Mealmaster brand. The

members have met volume buying with volume selling; they have established a trade reputation by packing quality produce in grades that will meet inspection standards. They are up-to-date on their individual farms, use the best equipment, and have the support of the various state agencies in working out the best cultural practices.

Delaware Produce Growers, Inc., has demonstrated that it is a "Roll Your Own" organization. **THE END.**

STATE



NEWS

- California Sets Canning Tomato Price
- Hoosier Growers Form Marketing Association

Tomatoes Go for \$21.50 a Ton

CALIFORNIA—An eight-month deadlock between canners and California Tomato Growers Association over sales conditions and the price of the 1959 crop of processing tomatoes has been broken by the association's reluctant acceptance the canner offering price of \$21.50 a ton for round tomatoes in northern California, says Alan Jensen, Stockton, association manager. The base price for round tomatoes in that area last year was \$22.50 a ton.

Jensen reports that an objective economic study prepared for the association reveals that more than half of the growers of processing tomatoes in California will operate at a net loss this year at the canner's offered price. This grower-bargaining group represents more than 70% of the state's \$60 million canning tomato industry.

The association is holding fast to its demand for a 5500-pound a week or 1100-pound a day minimum delivery allowance of processing tomatoes for each acre contracted for by a canner.

Vegetable Association Formed

INDIANA — The new D-V Vegetable Growers Marketing Association with headquarters in Vincennes brings together 25 to 30 growers from a 3-county area who will market 500 acres of produce. Over half of the acreage will go into cantaloupes and the rest in peppers, tomatoes, and cucumbers.

Actual marketing began in late June. The association will handle some of the sales, but Don Dalbey of the J. W. Davis Company, Terre Haute, will make most of the sales. All of the organized produce will be marketed under "D-V" brand and the melons will bear the Indiana Seal of Quality. Cucumbers, peppers, and tomatoes will be waxed, washed, and sized with newly acquired machinery from Lobee Pump & Machinery Company, Gasport, N. Y.

The growers' agreement specifies the association will market only top quality produce and the shed manager will have full authority to turn away sub-standard produce.

Officers of the association are Clarence Seibel, president; Clarence Smith, vice president; Dexter Bloebaum, secretary; Richard Boesciker, treasurer; Otto Buchhorn, fifth member of the board; and Merle Winemiller, shed manager.

New Tomato Developed

LOUISIANA — A new tomato variety, highly resistant to heat and foliage diseases, has been developed by Louisiana State University Agricultural Experiment Station and will be available next spring, according to Dr. Julian C. Miller, head of horticultural research at LSU.

Temporarily designated as the L-3 and described as the best tomato ever grown at the university, the new variety has survived

VGAA CONVENTION

Plans are shaping up for the 51st annual convention of Vegetable Growers Association of America which will be held this year on December 7-10 in Atlantic City. The Dennis and Shelburne Hotels have been selected as convention headquarters.

The New Jersey State Horticultural Society has scheduled its 1959 gathering as a joint meeting with VGAA at the same hotels. Brad Johnson, Horticulture Department, Rutgers University, is chairman of the convention committee.

this year's adverse weather conditions better than any other tomato. It was produced by crossbreeding the Louisiana Slicer and the Marglobe and then recrossing the product with Marglobe. Other tomatoes will not bear in temperatures greater than 80°, but the L-3 has produced in even hotter weather.

Going Strong

NEW YORK—Tri-County Growers, Inc., in Waterville, has started its 2nd year of operation. The co-op has 30 members in Chenango, Madison, and Oneida counties who represent 10,000 acres of green snap beans. Membership in the co-op is not limited to the counties.

Paul Lynch is manager of the co-op.

About 85% of the beans produced by members go to the processor and the remainder to the fresh market. Work crews and a dozen mechanical bean pickers are used to harvest the crop which is marketed in six different states.

Color-Blind Tomato Pickers

NEW JERSEY—To help the color-blind tomato picker, place a tape around the wrist of the picker in the exact color the tomatoes should be when harvested. That's the word of advice from C. H. Nissley, retired vegetable crops extension specialist, Rutgers University, New Brunswick, who explained that the picker then can match the color.

Ways to Improve Quality

ARKANSAS—Ways to encourage state growers to supply top quality produce were discussed at the recent Horticultural Processing Day at University of Arkansas Agricultural Experiment Station, Fayetteville.

The group of some 60 processors and experiment station as well as extension personnel agreed that organized co-operation among growers, processors, and the university was the first step toward reaching the goal.

An example was cited in pointing out how such a program could be successful. By following the advice of the experiment station, a grower near Gentry who had never grown sweetpotatoes before sold \$5000 worth of the crop from 17 acres

Know Your . . .

VEGETABLE SEEDS

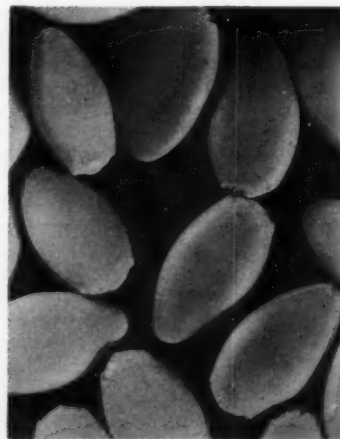
By VICTOR R. BOSWELL
U.S. Department of Agriculture

WEST INDIA GHERKIN

THE true gherkin or West India gherkin is a relative of cucumber, but is not a small cucumber. The fruits are little, seedy, warty, oval to oblong, about 1 to 1½ inches long, and are borne singly on very long, slender fruit-stems. The plants are long-trailing vines that resemble those of watermelon; and the yellow flowers are only about one-fourth inch across.

The seeds are but about a sixth of an inch long. In proportion to their length they are wider and thicker than cucumber seeds. A distinctive feature is the prominent, rough, basal scar that can be seen under low-power magnification; no such scar is evident on the cucumber seed. The color is tan.

West India gherkin is another of those very minor vegetables that is grown to such a limited extent in this country that no figures have been compiled on the production of the crop or of the seeds. It is grown chiefly in home gardens for pickling. Methods of growing and of recovery of seeds are essentially the same as for cucumber.



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last year to Allen Canning Co., Siloam Springs.

These points were brought out during the discussion:

1) Since Arkansas growers don't supply enough raw products of suitable quality for local processors, the processor is forced to bring in raw vegetables at long distances from other areas. Both grower and processor would profit if the grower would produce quality products.

2) The key to obtaining quality products is to get the grower and processor together before planting time. The grower needs to know what the processor wants and how much he can pay. The canner expects an agreement to work both ways. If he agrees to buy so many pounds of a crop at a specified price, he expects the grower to be able to deliver that amount.

A boon to providing high quality products in the state is the newly-erected physiology and processing laboratory at the university's main experiment station. —J. Clayton Herman, Asst. Editor, Ark. Exp. Sta., Fayetteville.

Rains Cause Nitrogen Leaching

ILLINOIS—Earlier heavy rains in some areas may have caused leaching of nitrogen, reports University of Illinois Agricultural Extension Service. Extra nitrogen may be needed in these cases. Watch for symptoms of a nitrogen deficiency—uniform, pale green yellowing, particularly in older leaves.

A good idea to determine the nitrogen needs of plants is to use a tissue testing kit. Information on nitrate tissue test powder and tissue testing kits can be obtained from Clark Laboratory Supply, Urbana, or Urbana Laboratories, Urbana. One of these kits is an investment that every vegetable grower should make, says the Agricultural Extension Service.

Delmarva Growers Tour

DELAWARE—In recent months, two groups of vegetable growers from the Delmarva area made on-the-spot studies of the Philadelphia and New York markets to see produce from all areas on a competitive basis and to learn how their own market position could be improved.

The first tour, made to the Philadelphia markets, attracted some 40 growers, while 75 participated in the New York expedition. The growers came away with a better understanding of marketing methods and procedures and through discussion with key produce buyers, many misunder-

standings about their own marketing problems and opportunities were cleared up. They learned more about the quality requirements of the trade, the packaging preferred, and the buying procedures.

These tours were sponsored by the Peninsula Horticultural Society and were conducted by Robert Bull, food marketing specialist, University of Delaware Agricultural Extension Service.

Trade Association Organized

FLORIDA—The purpose of the newly formed Florida Vegetable Canners Association is to promote and advance the vegetable canning industry of the state.

Officers for this year are: president, W. Allen Markham, Markham Brothers & Co., Okeechobee; first vice-president, Gordon Schmitt, Stinefeldt Thompson Inc., Dania; second vice-president, Samuel Sugarman, Sugar Rose Canning Co., Plant City; and secretary-treasurer, J. S. Peters, manager of industry relations for Florida Fruit & Vegetable Association, Orlando.

President Markham said there has long been need of an organization of this type and they expect to accomplish several important tasks for the general benefit of the industry. He also extended an invitation to all canners to contact any of the officers for further information.—Porter V. Taylor.

Chipping Spuds Need Heat

COLORADO—High soil temperature makes Arkansas Valley a good place to grow potatoes for the chipping industry.

In recent variety trials, Dr. Harold W. Chapman, associate horticulturist, Colorado State University Experiment Station, found that Russet Rural, Katahdin, Cobbler, and other round white varieties show the greatest promise in terms of yield and chipping qualities.

Harvest of these varieties occurs between middle and late summer, a time when supplies from other potato-producing areas are low.

In all, some 400 sample lots from throughout Colorado were tested this year for chipping qualities.

A new canning tomato with such desirable characteristics as high yield, good foliage, and a small core has been developed by CSU Experiment Station for use in northern Colorado and other short season areas.

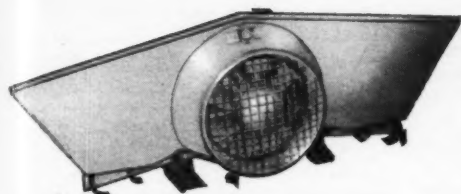
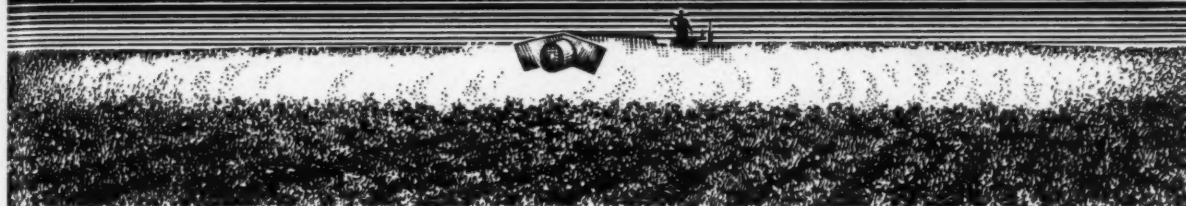
The new variety, Kenosha, out-produced all but one of 11 other varieties in Kurer-Empson test plots at Platteville. The Fort Lupton Canning Co. co-operated with Kurer-Empson in these tests.



Delmarva Peninsula Fruit and Vegetable Growers see chain store warehouse first-hand and discuss with chain buyers ways for improving their competitive position in the market. Part of a tour group of 75 is shown here at Safeway Stores distribution center in Kearny, N.J.

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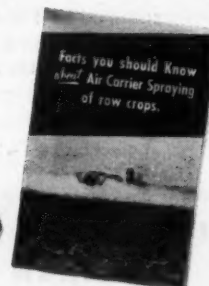
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LETTUCE

Mildew-Resistant Variety

THE Texas Agricultural Experiment Station and USDA recently released seed of a new variety of head lettuce which is resistant to the strains of downy mildew prevalent in the Lower Rio Grande Valley.

This new variety, named Valverde, was developed specifically for use in the area from Rio Grande City east and southward to Brownsville. In this area plantings made in October and November for harvest in late January, February, and early March are consistently damaged by downy mildew in seasons of normal or excessive rainfall.

After two seasons of surveying the breeding material and developing techniques for selection, transplanting, and producing seed from single plant selections, four lines in the breeding plots were found to be immune from damage by the downy mildew fungus. The four immune lines were derived from a cross originally made in 1932 between a plant from a collection of *Wild Lettuce* from Russia and Imperial D. During the course of development, this line was backcrossed twice to Imperial D, and once each to Grand Rapids, Imperial 152, Imperial 847, and Imperial 850. In 1940 it was crossed with the susceptible variety Cosberg. Since that time, the lines descended from this cross have been carried forward by straight selection based mainly upon good horticultural characters. In 1940, I. C. Jagger and T. W. Whitaker showed that immunity from the disease was inherited from the original *Wild Lettuce* collection from Russia and is the expression of a single dominant gene.

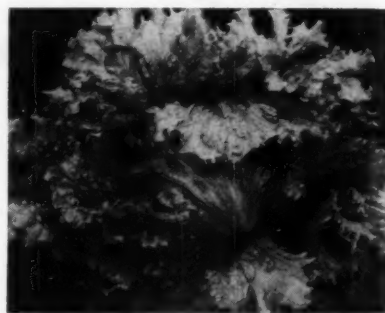
Seed from each immune plant selected was planted in the plots in 1957-58. This material was completely free of mildew infection and was outstanding in appearance compared with the susceptible commercial varieties planted as checks. Among the resistant progenies, three were selected as superior. Individual plants selected for their desirable characters were chosen from each of these three progenies. As soon as the seed matured it was sent to California for increase. Each line produced 30 to 40 pounds of seed.

These three were planted in the Lower Rio Grande Valley during the past growing season and the results could be conservatively described as

amazing. Where the susceptible commercial varieties of lettuce were heavily damaged and unmarketable as a result of downy mildew infection, the immune lines in adjacent rows grew vigorously and had an attractive green color; not a single plant exhibited any evidence of the disease. One line, exhibiting characteristics slightly superior to the others, was given the varietal name Valverde and released to the trade in March, 1959.

Valverde is not a Great Lakes type of head lettuce, but it has most of the desirable characteristics of that type without some of the undesirable ones. The plants have an attractive dark-green color and the heads have dark-green, rather thick wrapper leaves and good butt appearance; normally, Valverde will make 2-dozen size; the leaves are well folded; the heads are firm but not hard; the small leaves toward the center of the head have a pleasing yellowish color instead of white that is typical of the Great Lakes type.

Valverde is *not the perfect* head lettuce for the Lower Rio Grande Valley. The plants have a tendency to produce "suckers," and the seed stalk



Valverde, new downy mildew-resistant lettuce.

is not as low as desired. It is not suitable for early-fall planting and requires about a week longer to mature than comparable strains of Great Lakes. These disadvantages are outweighed by the fact that the variety will produce a good, marketable crop undamaged by downy mildew.

The following companies were given seed allotments for increase purposes: Ferry-Morse Seed Company, Mt. View, Calif.; Associated Seed Growers, Inc., New Haven, Conn.; Dessert Seed Company, El Centro, Calif.; Reed-Lehman Seed Company, San Antonio, Texas; Walter Baxter Seed Company, Weslaco, Texas.—Paul W. Leeper, Thomas W. Whitaker, and G. W. Bohn.

Author PAUL W. LEEPER is Associate Horticulturist, Texas Agricultural Experiment Station, Substation No. 15, Weslaco. Authors THOMAS W. WHITAKER and G. W. BOHN are Geneticist and Plant Pathologist, respectively, Crops Research Division, USDA, La Jolla, Calif.

AMERICAN VEGETABLE GROWER



Applying VAPAM soil fumigant to a field by the bed-over method. This is one of the most practical and economical means of fumigating large areas.



Unretouched photo showing results of VAPAM treatment in the rows. Weeds between the rows can be quickly cultivated without disturbing the treated area. In addition to weeds, VAPAM also controls many soil pests.

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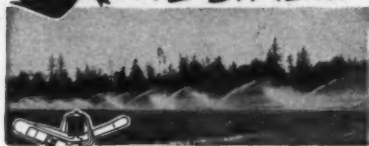
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As It Looks to Me

By JOHN CAREW

Michigan State University

THE latest in vegetable diseases and their control is reported twice monthly in the *Plant Disease Reporter* published by the Agricultural Research Service of USDA. These excerpts from the July 15 issue are particularly interesting:

Amount of fungicide per acre is more important for disease control than gallonage of water used. Over a period of five years, comparable control of early blight and anthracnose of tomatoes was obtained with a hydraulic sprayer at rates of 50, 100, and 200 gallons per acre; a commercial air-blast sprayer at 50 and 100 gallons per acre; and an experimental sprayer at 20 gallons per acre. Fungicide dosage per acre was constant.—Schroeder, Mack, Brann, and Gunkel, Cornell University.



Copper plus streptomycin proved superior to a large number of other fungicides in the control of bacterial spot on tomatoes.—Stall, University of Florida.

Young tomatoes and pepper seedlings under glass should not be sprayed with maneb (Dithane M-22 or Manzate). Although this fungicide has an outstanding record in the field, as little as one pound per 100 gallons of water sprayed on greenhouse plants caused a stem burning at the soil line similar in appearance to damping off. No injury was observed on seven- or eight-week-old plants; only those younger and more succulent.—McKeen, Canada Department of Agriculture, Harrow.

Maneb gave excellent field control of tomato anthracnose and gray leaf spot, pepper ripe rot, muskmelon leaf spot, and lima bean anthracnose. Other fungicides in the same experiments were Phaltan, Dyrene, and Dithane Z-78.—Crossan, Johnson, and Siegel, University of Delaware.

Dipping topped carrots in a .01% solution of sodium hypochlorite reduced decay of packaged carrots when they were stored at high temperatures (70° and 80° F.). Carrots stored at 40° or 50° F., however, were not benefited by the chlorite. This treatment therefore would appear of little value under normal cold storage conditions.—Marlatt, Tucker,

and Stewart, University of Arizona.

The black root disease of red radishes has been found on a number of Connecticut farms. Metallic gray to black spots were located mainly on the lower end of the root. The interior flesh showed dark streaks and gray discoloration.—Rich, University of Connecticut.

Are you a Farm Worker or a Farm Manager? If your farm and equipment are worth \$50,000 and your net income over \$10,000 you cannot afford to drive a tractor, package vegetables, or drive a truck. No farm can afford to have its five to ten dollar-an-hour manager doing one to two dollar-an-hour work!

Labor management, pest control, buying, and selling require full-time attention. Tractor driving and truck driving have become luxuries to the 1959 vegetable-growing Business Man. He can scarcely afford such waste of his talents.

Never do anything you can hire someone else to do! Managing a modern vegetable farm is a full-time thinking job.

Avoid greenhouse and coldframe troubles by fumigating plant-growing soils in September or October. Treat early while the soil is still warm and there is ample time for it to "air" out.

Most cases of greenhouse soil fumigation injury arise because:

1) The soil is too cold. To be safe, it should be above 60° F.

2) The time between fumigation and planting was too short. Some chemicals require a three-week waiting period; others only three to four days.

3) Too much fumigant was used. Dosage rates have been carefully calculated by the manufacturers; follow them.

4) The wrong fumigant was used on a susceptible crop. Certain flower and vegetable plants are highly sensitive to particular chemicals. Read the label!

Several chemicals are used successfully for treating greenhouse soils; methyl bromide, Vapam, chloropicrin, allyl alcohol, and others. Growers and experiment station users cannot agree on a "best" one. But all fumigants can be used with a greater degree of safety if soils are treated in early fall rather than in midwinter or early spring. THE END.

AMERICAN VEGETABLE GROWER

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GOING Salina these days with the sized shot any hunter for the ten discourage automatic Gun", an where it h years. Th U. S. by B California

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SEPTEMBER

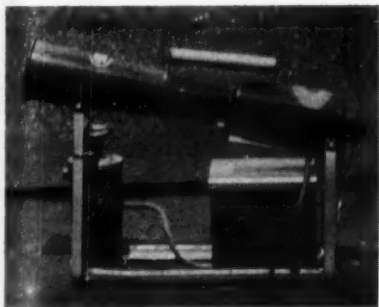
IT WILL SCARE YOU TOO!

GOING into the vegetable fields at Salinas and Watsonville, Calif., these days, your ears are blasted with the repeated booms of oversized shot guns. But you don't see any hunters. And the birds, hungry for the tender seedlings, are getting discouraged because of the tireless automatic harassment of the "Zon Gun", an import from Holland where it has been in use for some years. The gun is distributed in the U. S. by B. M. Lawrence & Co., 244 California St., San Francisco, Calif.

The portable 8- by 18-inch gun is mounted on a steel frame. At one end is a pot holding calcium carbide. Above this, a tank with an adjustable drip supplies water to the chemical causing the formation of acetylene gas which is carried by a rubber tube to a pressure diaphragm at the end of the gun.

The gas pressure builds up to a point where the diaphragm lifts a ratchet and wheel to trip a flint which ignites the accumulated gas in the combustion chamber. A 2-foot horn intensifies the blast.

The detonation intervals are governed by the water drip-rate, variable from one a minute to one an hour, and the carbide charge lasts three hours. Installation of one gun



This scare gun is used to replace scare crows.

to each five acres is recommended. There are no dangerous products of combustion, and no minute apertures to clog up.

On the Antone Aarol ranch at Soledad in Monterey County a dozen guns have been in operation for over three years. They are so spaced that the curlew, linnets, sparrows, and wild canaries don't have a chance to get set in the seedling lettuce, onions, tomatoes, and broccoli before another boom sends them winging off again.—F. D. Lyon.

Are you planning a roadside market? Working drawings for an attractive, easy-to-build roadside stand are available for \$2.00 from AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

SEPTEMBER, 1959

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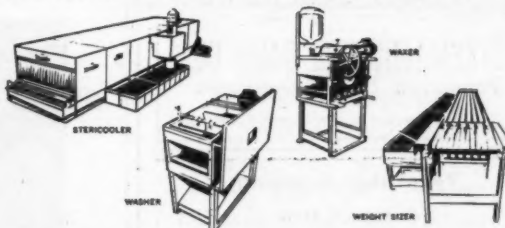
A fast, smooth-flowing packing line is a must in any profitable packing house operation. And the line that can run your produce thru quicker, more accurately with less help is worth more any day in the week. That is why more and more packing plants and houses are standardizing on FMC equipment. FMC equipment is tailor-made to handle produce with utmost gentleness. FMC equipment is custom-designed to move produce at maximum speeds with less human attention. You get more, yet you pay no more. So specify and buy the very best. Make your entire line FMC equipment.

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Willoughby, Ohio

ROOT CROPS

Carrot Packing Trends

METHODS of packing carrots have changed twice in the last 15 years in response to consumer and dealer demands, according to one of southern California's big carrot growers.

The William H. Gumpertz Company, which grows, packs, and ships carrots, has about 1000 acres in the Oxnard area, near Los Angeles. Gumpertz, company president, has been in the carrot business 37 years. For the year ended August 31, 1958, his company sold more than 21 million pounds of carrots in 13 types of containers.

The company sells in the United States and Canada through brokers, distributors, receivers, and jobbers.

In its early years in business the company packed and shipped mainly bunched, untopped carrots that had been washed in tubs. The company loaded eight to 10 rail cars a day of bunched carrots with greens. Now they don't load that number of bunched carrots in a week, said Gumpertz.

The first major change in the last 15 years, he says, was to consumer-size polyethylene bags. For a while Gumpertz packed and shipped 90% of his carrots in consumer bags of 1 pound, 20-ounce, and 2-pound weights. In the last five years, however, the ratio of shipments has shifted to 50% consumer bags, and 50% bulk carrots. These bulk carrots are of consumer bag size, are washed and graded, packed in burlap sacks, and shipped under ice by rail and truck to receivers who do their own packing in polyethylene bags.

Packing near the sales area, points out Gumpertz, often saves money on



William H. Gumpertz, shown in his packing shed.

labor costs, which are lower in some regions than in California, and on containers, which the packer may reuse or may buy used.

The size and quality of carrots desired by consumers has not changed much through the years, according to Gumpertz. Consumers prefer a carrot $\frac{7}{8}$ inch to $1\frac{1}{2}$ inches in diameter and 6 to 9 inches long. The best carrots on his land come from sandy loam, Gumpertz says.

"Before, the tops were packed in ice to preserve them," he reports. The consumer paid extra icing charges for greens that were not used.

Some areas still use bunch carrots but they are few and the volume is very light, according to Gumpertz. Chain stores prefer to handle carrots in consumer bags, he asserts, "because they are handled like hardware and don't require attention."

Under normal refrigeration, Gumpertz says, he has kept carrots in polyethylene bags as long as three months and they remained fresh.

The Gumpertz company also packs larger size carrots in 50-pound mesh sacks for institutions as well as in 25-pound polyethylene containers for general use and for jobbers who sell to retailers that maintain bulk carrot bins.—Jeanne Riha.



Mrs. Luz Cobian, Oxnard, Calif., inspects washed, topped carrots in Gumpertz shed where as many as 75 workers are employed to prepare carrots for market.

AMERICAN VEGETABLE GROWER

Variety

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New, stand green fruits F₁ h long than

POTATOES

Variety Looks Promising

ONAWAY, a new potato variety tested by Delaware Agricultural Experiment Station in 1958, looks very promising for Delaware. E. P. Brasher, chairman of U. D. horticulture department, reports that Onaway produced more than 2½ tons of U. S. No. 1 potatoes per acre.

15,000 Pieces an Hour

AN experimental seed-potato cutter will slice 7- to 13-ounce tubers into six uniform pieces at the rate of 15,000 per hour, enough to plant 1 acre.

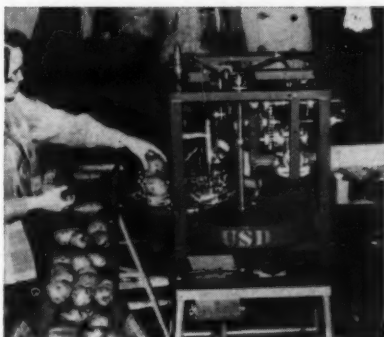
Designed by George W. French, USDA Agricultural Research Service, the cutter has been tested in East Grand Forks, Minn., in co-operation with Red River Valley Potato Growers Association. One operator feeding a commercial cutter, based on the experimental model, can equal the output of four or five workers cutting tubers by hand.

Potatoes are cut on a rotary table fitted with four positioning mecha-

nisms. The table rotates intermittently through one-fourth of a full circle. Two potatoes at a time are placed on positioning mechanisms.

After the first rotation, the table stops with the first tuber beneath an upright plunger, which pushes the lower half of the tuber down through a vertical three-bladed knife. Then a rotating, horizontal knife cuts the potato lengthwise in half and the three seed pieces drop onto a conveyor.

The table rotates another quarter turn, with the upper half of the potato under the second plunger, and the same process is repeated.



USDA Photo
Experimental seed-potato cutter can slice enough pieces to plant 1 acre.

While the final cut is being made on the first potato, the first cuts are made on the second tuber. The other two positions are always available for feeding more potatoes into the machine.

New Sweet for Southwest

EXCELLENT yields and performance of a new sweetpotato variety, Apache, have been reported from various irrigated areas of New Mexico and California.

Released by USDA and the agricultural experiment stations of the two states, the variety has a bright orange flesh with a carotene content about one-third higher than in good Porto Rico stocks.

The medium-size roots have an attractive orange-colored skin with good "finish," are tapered-spindle to short-cylindrical in shape. Root set is moderate to heavy.

Baking quality of the "moist" roots is very good as well as the flavor and sweetness; texture is smooth. Roots store and handle well and produce an abundance of early moderate-size sprouts in the plant bed.

Limited quantities of foundation propagating stock may be obtained from growers by requests placed through the Sweet Potato Growers Association, Portales, N.M.

**New!
Top Producer**



BURPEEANA HYBRID CUCUMBER

New, yet already proven as an outstanding, early producer of very dark green, straight, cylindrically-shaped fruits without speckling. It is a true F₁ hybrid—vigorous, productive over a long period, and a few days earlier than Burpee Hybrid.

BURPEE HYBRID CUCUMBER

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REMODELING VARIETIES

(Continued from page 11)

We predict that in a few years bush varieties will be produced with the flavor and texture now found only in our finest pole varieties.

Broccoli. This is practically a new vegetable, developed within the past 25 years or so. Major improvements have been in the size, appearance, and yielding ability of our present varieties. Over the horizon we can look for hybrid varieties, with uniform plant type and maturity, adapted for machine harvesting.

Cabbage. The major achievement has been in the development of yellows-resistant varieties. The near future should see hybrid varieties of uniform maturity, adapted for mechanical harvesting.

Carrot. The major achievement has been the development of the long, slender type, beginning with Long Emperor which has been the cornerstone of the prepackaged carrot industry. Still to be achieved are greater uniformity, better color, more desirable plant characteristics, such as disease resistance and top development. Several seed companies and public research agencies are now working on these problems.

Corn. This is another vegetable that has been almost entirely remodeled within the past quarter century, with hybrid varieties that are heavier yielding, disease- and insect-resistant, and more tolerant of climatic conditions. The plant breeder has until now successfully bred to specifications. As these specifications alter with changes in production, harvesting, and marketing methods, we can expect continued success in meeting new requirements.

Cucumber. The major shift has been toward the small, trim, dark

green type, made popular by Marketer. And now even Marketer is yielding ground to its mildew-resistant cousin Ashley. It won't be long before Ashley gives way to still another variety, perhaps resistant to mosaic as well as mildew and now only on the planning boards in the plant-breeder's workshop.

Hybrid varieties have made only a small penetration, largely because of seed cost, but within a decade practically all cucumbers grown for market will be hybrid varieties, with multiple disease resistance, grown from seed produced on a large scale using a male-sterile seed parent.

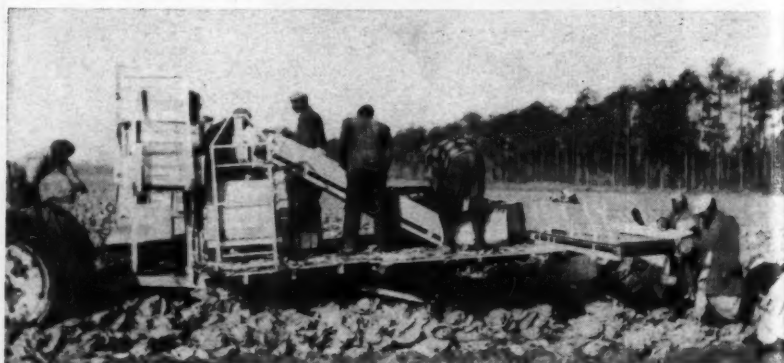
Lettuce. The modern, year-round head lettuce industry owes much to the plant-breeder's art, beginning with Great Lakes and continuing with related strains, developed to meet a wide range of growing conditions.

Onion. Within five years, hybrid varieties have almost completely replaced open-pollinated varieties in the short-day, spring-harvest class, offering heavier yields, better uniformity, and disease resistance. In summer- and fall-crop onions, hybrid varieties have made major inroads and can be expected to replace open-pollinated varieties within a few years.

Pepper. In peppers, the big trend has been toward disease-resistant varieties, the big break-through coming with Yolo Wonder in the early 1950's. That variety has been followed by several improved strains more desirable as market types.

Spinach. The major developments have been the incorporation of multiple disease resistance into standard types, either as new, open-pollinated varieties or as hybrids.

Tomato. This vegetable has been remodeled at least twice in the past 25 years, and there is no sign yet that the plant breeder is satisfied! In the late 1930's and early 1940's, two ma-



HARVESTING PRODUCTION DOUBLED

This time-saving harvesting aid developed at University of Florida Agricultural Experiment Station, Gainesville, doubles production of crews. Conveyor belts carry vegetables to packing crews right in the field. Device is mounted on trailer-like apparatus drawn by tractor. About 75 boxes can be carried at one time. Used principally in harvesting cabbage, the unit can be adapted for cauliflower, eggplant, tomatoes, and cucumbers.—Elwyn S. Holmes, Asst. Agr'l Engineer, U. of Florida.

AMERICAN VEGETABLE GROWER

major varieties, Rutgers, Pearson in standard varieties, replacing old ones. In the past, they were seeing a lot of deterioration, but now they are seeing a lot of improvement. This development is what promises new resistance.

Watermelon. Varieties, even more complete than the outstanding multiple disease-resistant Gray, which is a great improvement, overnight, most important, even though entirely new.

And so termelons. Varieties of demand for afforded increasing, for with all the and technical our vegetable factories. past history ceasing change.

But change. We may things after century!

BL TOMA

WILLI general manager of tomato company in Orlando, signed his name. As manager, he is interested in the Order No. 1, which is a plan for regulating the production of tomatoes in the east and the South River. He has considerable experience in working with the Black agricultural community. While definitely interested in the grower or manager, he is not a manager.

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GROWER

for varieties become predominant: Rutgers, east of the Rockies, and Pearson in the Far West. Now these standard varieties are themselves being replaced by disease-resistant versions. In the East, furthermore, we are seeing a gradual shift to the compact, determinate-vined type. Homestead and related strains have typified this development. Pearson VF6 and Pearson VF11 are only the first of what promises to become a series of new resistant varieties in the West.

Watermelon. The shift to new varieties, east of the Rockies, has been even more sudden, rapid, and complete than with many other species. The outstanding example is the new multiple disease-resistant Charleston Gray, which has been such an improvement, horticulturally, that almost overnight, it has become the single most important variety in its region, even though it represented something entirely new in external color.

And so it goes, from beans to watermelons. The trend toward hybrid varieties is moving forward. The demand for the kind of uniformity afforded in hybrid varieties is unceasing, for it is intimately bound up with all the factors—economic, social, and technological—that are turning our vegetable farms into vegetable factories. Where will it all end? If past history means anything, this unceasing change will never end.

But check back with us in 1984. We may have a different slant on things after another quarter of a century!

BLACK LEAVES

TOMATO COMMITTEE

WILLIAM E. BLACK, who was general manager of Florida Tomato Committee, 753 Warner St., Orlando, for the past four years, resigned his position effective July 31.

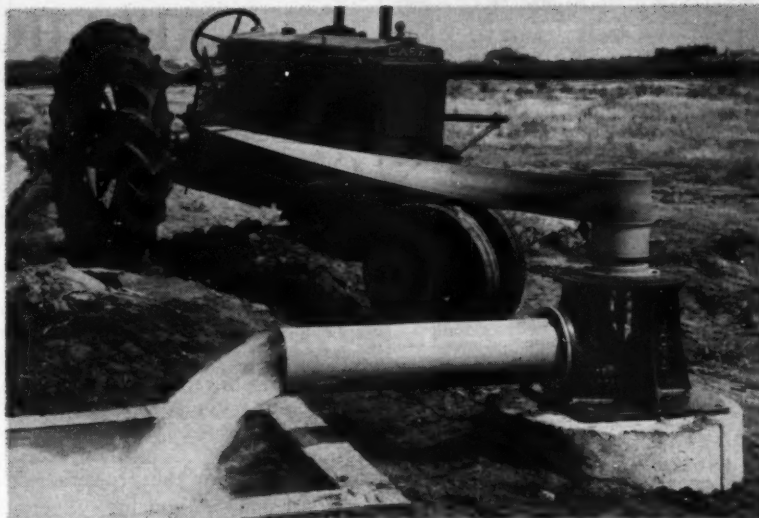
As manager, Dr. Black administered Federal Order No. 45 regulating the handling of tomatoes grown in Florida east and south of the Suwannee River. He has had considerable experience in working with grower groups and in collective bargaining with processors.

Black received his doctorate in agricultural economics at Cornell University in 1942.

While his future plans are not definitely formulated, Black is interested in further association with grower groups in an administrative or managerial capacity.



William E. Black



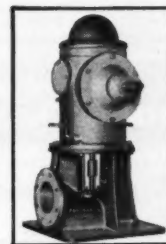
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GREENHOUSE CROPS

Maintenance Pays

GREENHOUSE owners and growers of the Cleveland, Ohio, area all agree that high crop yields are related to good maintenance. This includes painting, glass replacement, weed control, and structural repairs. Maintenance, a year around job, gets special attention during midsummer.

Visitors to this area remark on the high degree of repair and upkeep, and greenhouse supply companies find a paradise for sale of their maintenance products here. Good housekeeping has paid off for the growers.

Extension Vegetable Specialist William Brooks has observed that the highest yields and greatest profits are made in well-painted greenhouses. This has been the stimulus for new glass and fresh paint. Edward Drollinger, grower at Bunker Hill Greenhouse, says good maintenance is directly proportional to high yields. When the market for greenhouse tomatoes is good, profits are greater.

Key to performing a good job is a scheduled maintenance program. Drollinger plans on painting the inside every six years, the outside every three. Side walls and ends are checked and repaired after steam sterilization in the summer. Glass slipping and cracking are most prevalent at this time. Cracked glass or leaks cut down efficiency of a heating system. Water dripping on steam pipes or cold drafts require more fuel and raise operating costs.

Production increased 20% in one section, according to Ed Drollinger, after the interior was painted. Paint was given the credit for a tight house, stopping many leaks. Light reflection is increased by painting all possible pipe work and fittings.

Control of vegetation around the greenhouse is often overlooked. This is a primary source of noxious weeds and insects. Some of which can serve as host plants for troublesome plant diseases and viruses in the greenhouse. Many English, Dutch, and Danish growers prefer clean gravel borders, thus eliminating weeds and insect pests.

Herbicides are now available for use around greenhouses. Precaution should always be used with 2,4-D weed killers or their derivatives. Often an empty 2,4-D container left near or in a greenhouse has caused considerable damage to flower and vegetable crops.

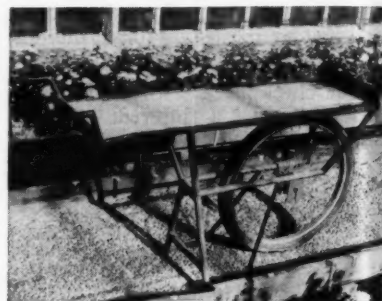
Recently a problem has arisen

where home owners near greenhouses have been spraying their lawns with weed killers. A community approach will be necessary to inform the home owners of a less damaging herbicide.

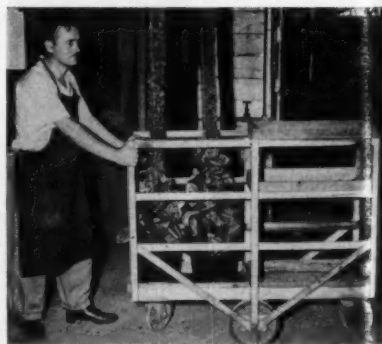
Many growers would profit from the installation of a tile line around the perimeter of the greenhouse. This would reduce maintenance of side walls and foundations damaged by frost.

It is not uncommon in the Cleveland area to find successful growers operating greenhouses that are over 50 years old. Timely repairs, modernization of heating units, systematic painting and re-glazing has made this possible. The M. F. Cutting, Thompson-Allen, and Lawrence Hinckley greenhouses are good examples. Complete renovation and rebuilding of 60-year-old greenhouses has been profitable for the Kraushaar Brothers.—Fred K. Buscher, Cuyahoga County (Ohio) Agricultural Agent.

Time Savers



Carts, which can be made in your own workshop, save the greenhouse worker a lot of steps in carrying flats and trays of pot plants out to the growing benches. They are especially useful in houses with hard-surfaced walks. For narrow-graveled walks between benches, simple cart with a bicycle wheel is extremely handy.



Another cart well worth the money is the versatile model pictured above. It is constructed to carry eight flats as well as to serve as utility carrier for a number of other purposes.—J. R. Kamp and G. M. Foster, University of Illinois.

AMERICAN VEGETABLE GROWER

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SEPTEMBER,

Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a four-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

RABBIT REPELLENT

How can I keep rabbits from eating my vegetable plants?—Pennsylvania.

Summer use of thiram on vegetable plants will repel rabbits, experiments at Pennsylvania State University indicate. Snap bean plants were used in the tests. Grown in an outdoor pen, the bean plants were sprayed with various chemicals and wild rabbits were turned loose in the pen.

Thiram was consistently good as a repellent. A liquid suspension of thiram was used according to manufacturer's directions. Liquid thiram can be applied more evenly than wettable powder and the liquid form adheres longer than the powder emulsion. Several commercial rabbit repellents of this type are on the market.

Vegetable plants should be sprayed when relatively small. Thiram should never be applied to edible portions of any plant or crop, although it is not highly poisonous.

PLANT CONTAINERS

Would appreciate the address of manufacturer of the plant containers with handles shown in your Greenhouse Crops column in the May AMERICAN VEGETABLE GROWER.—Texas.

The container pictured is the Molesta Plant Carrier and one source of supply is Geo. J. Ball, Inc., West Chicago, Ill.

CAMPBELL NO. 146

I am interested in trying the tomato variety Campbell No. 146. Can you tell me something about it?—North Carolina.

Campbell No. 146 is crack resistant, medium-late in season, and resistant to fusarium wilt. Fruits are slightly flattened, firm, and well colored. The variety is reported to be one to three days later in season than the Rutgers variety.

WINTER GREENHOUSE CROP

We are greenhouse tomato growers and since our crop is off in August, we would like to grow a winter crop of some sort. We think we are too far north to attempt a winter tomato crop. What suggestions do you have?—Wisconsin.

We agree that a fall tomato crop may be at a disadvantage in your location due to the relatively short days which prevail in your region. However, there are two crops commonly grown in winter in Wisconsin greenhouses, according to John A. Schoenemann, extension vegetable specialist at University of Wisconsin. They are leaf lettuce and radishes. It is suggested that you start them in the greenhouse in late September. Then the first crop would be ready sometime in late November. Additional plantings may be made following the harvest of the first crop for sale during the winter months. Grand Rapids variety of leaf lettuce and Scarlet Globe variety of radish are recommended.

WEED CONTROL GUIDE

I am interested in leasing property in Florida for winter vegetable production and wonder where I can obtain advice on chemical weed control.—Indiana.

Write to Mail Room, Agricultural Extension Service, University of Florida, Gainesville, for the new publication, Chemical Weed Control Guide for Florida Vegetable Crops. Ask for Bul. No. C. 196.

SEPTEMBER, 1959

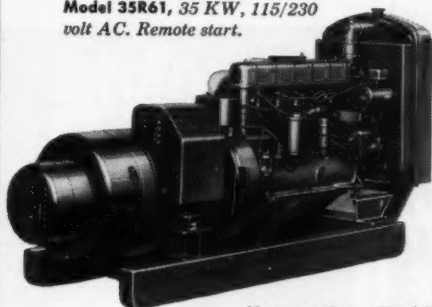
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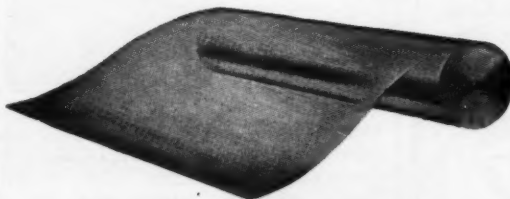
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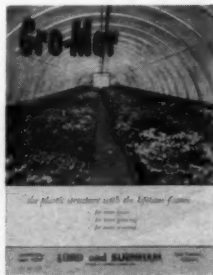
Growers of asparagus in New Jersey devised this asparagus pack which, as a waterproof boxboard container, keeps asparagus fresh and protects the tips from breaking, both in transit and at the retail market. The new package is handled easily, eliminates skilled packing labor, and gives the grower brand name identification and an easier pricing method. Here is an



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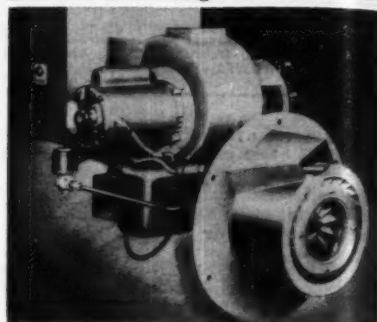
Plastic Greenhouse Catalog

Many growers have written to me asking where they can get a plastic greenhouse catalog. Until just the other day, none was available, but now you can have an up-to-the-minute pamphlet on plastic greenhouses which will answer all of your questions. Prices and structural details along with heating and ventilating equipment are outlined. Our readers have merely to write Howard Cross, Lord and Burnham, Irvington, N. Y.



Best for Greenhouses

During tests it was clearly shown that the air-blast type of burner did the best job at the lowest cost for greenhouse heating. Ohio greenhouse growers are using the WhirlBlast



unit pictured above. The new unit eliminates the need for smokestacks, and a new firing head eliminates pulsation. You'll want to know more about this unit. Write Iron Fireman, 3206 West 106th St., Cleveland 11, Ohio. You will receive full information and specifications.

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We have been buying several items for our offices and for our model house from the Syracuse Ornamental Company. This company has the knack of making unusual and attractive materials from small wall designs to clocks and furniture. You would do well to write Jack Glinksky, Syracuse Ornamental Company, 581 S. Clinton St., Syracuse, N. Y., and get their catalog. Prices are reasonable.

Precision Planter

Increased costs have been defeated by many growers who are using accurate, scientific planters. Greater yields and lower costs are some of the advantages. One of the best pre-



cision planters I have seen is pictured above. Used by growers in the West Coast area, the planter reduces seed usage, increases yields, eliminates hand thinning, and develops uniform stands, making machine harvesting and thinning possible. The machine is beautifully constructed and will handle Filcoat seeds. You can get all of the facts by writing W. N. Lybarger, Harbison-Paine, Inc., Box 448, Loveland, Colo.

AMERICAN VEGETABLE GROWER

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DWARF TOMATOES

(Continued from page 12)

only to the size of the plant and not to the size of the fruit; normal-sized fruits are produced on these plants.

At Purdue, the old dwarf-type plant was crossed with more productive types. Strains have been developed with good fruit size and quality, wilt-resistance, and sufficient fruit set to make them practical. The plants are upright and compact with rough or rugose leaves. The internodes are very short so that fruit clusters are formed close together.

It was obvious that satisfactory yields could not be expected from plantings spaced at the same rate as normal-size plants. In studies made to determine a satisfactory population rate, from 4302 plants per acre to about 87,120 plants per acre were tested. The latter rate is half a square foot of space per plant.

An interesting fact was that with high populations there was no apparent reduction in yield. However, the increase in yield began to level off somewhere around 12,000 to 15,000 plants to the acre.

In 1957, dwarf plants at the rate of 19,360 per acre produced 11.8 tons on the first picking and 23 tons on the second picking. These are very high yields, but they show that increased production can be expected through the use of dwarf plants and higher populations.

The 1958 season was unfavorable for tomatoes because of excessive rain, but even on a wet field dwarfs produced 15 tons per acre in two pickings.

Tests thus far have been in years when ample or excessive moisture was available in the soil, and it is possible that the dwarfs would produce very poorly in a dry year unless some irrigation were used.

The ideal population rate has not yet been determined, but it now appears to be between 10,000 and 15,000 plants per acre. At the present cost of plants, some growers may consider it prohibitive to set dwarfs because of the extra number required and also because close spacing in setting is a much slower process. In a suitable season, however, it seems that the additional yield would easily cover the cost of plants.

Direct seeding is another way to cut down the cost of plants. Some 25 to 30% of the total acreage in Indiana is direct seeded at present, and it has been shown that dwarf tomatoes can be produced by this method also. The cost for seed would not differ from that for standard-vined types because the same quantity of seed is required. In direct seeding of dwarfs, the use of pre-emergence weed killers will help cut down the cost of production.

Dwarfs do not seem to present any greater problems of disease control than other varieties. Fruit rots might even be reduced because the rigid stem, especially in the early and middle part of the season, supports the fruit and prevents contact with the soil much better than the standard vine types.

Another promising aspect of dwarf tomatoes is the possibility that they might be harvested either partially or fully with mechanical pickers. In the past, the greatest deterrent to the development of such pickers has been the large amount of vine on standard type tomatoes which makes it virtually impossible to get to the fruit.

Current research on mechanical harvesting is on the basis of a "once over" harvest. The small vine of the dwarf tomato and limited branching make it very suitable for cutting and elevating into a machine. The set of fruit is sufficiently concentrated so

that yields of 12 tons per acre or more could be obtained at a single harvest.

Tomato fruits show little ill effects from being dropped a considerable distance onto a taut surface such as a canvas, and the fruit can be handled rather roughly without causing serious damage. Both green and ripe fruit are picked in such an operation.

The separation of green and ripe fruit will probably be done by some color-sorting device, but if this cannot be done, hand separating at a sorting table would be more practical than hand picking.

Some of the lines being studied ripen their fruit rather uniformly and it is believed that, through breeding, the amount of green fruit on a plant at harvesttime can be reduced. Studies are underway to determine the feasibility of applying a hormone to a plant that would prevent fruiting once a satisfactory set had been obtained.

In order to prevent gluts at the canneries, varieties having different maturity dates will have to be produced and also studies of date of planting must be made.

As time goes on, better varieties giving increased yields will be developed, and mechanical harvesting should become a reality. Until that time the short, compact vines of dwarfs make hand picking much easier, with less damage to the plants because the fruit is easy to find. The set of fruit is sufficiently concentrated so the main part of the crop can be harvested in relatively few pickings.

Seed of dwarf tomatoes is not available from Purdue University Agricultural Experiment Station. The initial increase of seed is being made in 1959 by the Agricultural Alumni Seed Association, R. R. No. 1, Lafayette, Ind., and inquiries regarding its availability should be directed to the Association.

THE END.



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MARKETING

Tobacco Bows to Vegetables

WHAT makes one of the finest tobacco-growing sections in the world suddenly divert its efforts toward establishing one of the largest vegetable markets in its area? This is the story of Loris, S. C., where last year allocations of more than \$60,000 by Horry County and the town itself made possible the beginning of such an enterprise.

In the area around Loris, acreage cuts reduced tobacco quotas by 50% and more. This made the growers turn elsewhere for their cash crops. While tobacco remains the number one cash crop, the vegetable growing industry is expanding rapidly and is helping the local grower to supplement his income. The outcome of this expansion is the Horry County Farmers Market.

The whole project is in its infancy—promoters are learning about grower requirements and distribution problems; the producer has to direct his attention away from tobacco growing methods to those of vegetable growing. He must learn to select the best land to produce the crop he wishes to plant; he must know about seed varieties; and he needs to be familiar with fertilizers and methods of cultivation.

On the merchandising end, the grower will have to become familiar with proper types of packages and packaging. He will have to learn to supply number one quality in the type package the consumer wants.

Spring of '58 marked the first time in many years that any organized marketing had been done in Loris. Peppers, tomatoes, pole beans, squash, okra, and cucumbers were distributed in this way. The result was encouraging, but some disappointments were encountered.

Early spring rains completely ruined some crops. Then, peppers were harvested at the height of the North Carolina crop and a flooded fresh market depressed the price.

The growers realized from their experiences that a larger acreage could be planted, cultivated, and harvested this year with almost the same amount of time and labor that was required in 1958.

Joe Blount, one of the most active of the Loris area growers, was among the first to try a crop of fall snap beans. From less than 4 acres he picked 431 hampers of beans and made more than \$800. He planted the Wade variety of bunch beans that require a minimum amount of expense and labor.

"I had a fair yield and good quality, but I believe I'll have even better success with my 1959 fall crop. This year my rows are closer together and I put more beans in the drill."

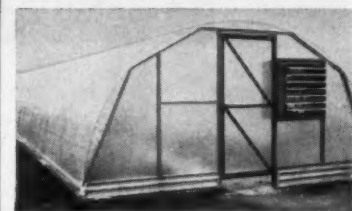
Sponsors of the new market are conscious of the importance of promotion, and are anxious to get their market established in the minds of metropolitan area food brokers. To this end, last November the Horry County Farmers Market, in co-operation with the Loris Merchants Association, solicited 500 bushels of Carolina yams from area growers and sent them by van to New York City. The entire load, which was accepted by New York City's Mayor Robert F. Wagner, Jr., was presented as a gift to the Co-ordination Council of Mental Health Program.

The Horry County Farmers Market still has many problems. However, by having a sound educational program for both producers and promoters, and insisting on quality vegetables in sufficient volume to attract chain store buyers from metropolitan areas, its future potential appears to have been established. —Philip Cronkhite, Mgr., Horry County Farmers Market.



Joe Blount (left), prominent diversified grower in Loris, S.C., looks over his fall bean field with Philip Cronkhite (right), manager of newly formed Horry County Farmers Market.

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Youth in Government

In recent issues we have published in the department on National Junior Vegetable Growers Association articles on outstanding young men and women who have achieved success in the agricultural field. All these young people had a sound background due to participation in the educational programs of NJVGA.

One young man has carved a distinguished name for himself in governmental circles. At the age of 31, Birch E. Bayh, Jr., has been a member of the Indiana General Assembly the last three sessions and House Majority leader in the 1959 legislature. He is now studying law at Indiana University.

Going back to younger days, the evidences for later accomplishments are readily apparent. Birch Bayh was active in 4-H as well as NJVGA activities. He won the Midwest Regional NJVGA award in the Production and Marketing Contest at the age of 17. Bayh tilled a 7-acre plot on his grandfather's farm where he raised crops worth \$1677. The produce was so excellent that a shipment was sent to his father, Lt. Col. Birch Bayh of the U. S. Army, then

stationed in China.

Studies at Purdue University were interrupted by army duty. Later, while assigned to German occupation forces, Bayh started a practical garden project for 100 German youths to augment a meager diet with the home-grown vegetables. The young growers were given a series of lessons in American methods, tilling, planting, and weeding. Bumper crops resulted from gift seeds sent by the NJVGA Club advisor.

Bayh came back to the U. S. to graduate from Purdue's School of Agriculture and to operate and manage the family farm outside west Terre Haute.

His civic interest and ability have placed him on the legislative advisory committee, the Flood Control and Water Resources Commission, and the Wabash River Channelization Commission, and have won for him the distinction of becoming director of the Wabash Valley Association.

Bayh's political future looks bright. Growers of Indiana and NJVGA can well be proud of this outstanding young man in government.

don't try for blue ribbons who are responsible for some of the poor quality vegetables on the market. Yet we are all striving to attain that desirable goal of consumer acceptance.

Putting our best foot forward at all times requires a lot of energy but it's effort that is rewarded. So let's get quality products into the hands of the consumers, where it counts!

A Touch of Magic

THE day when a grower may retire in the evening while his crops cultivate themselves may be closer than you think. Several hundred Iowa growers recently watched a demonstration of "automatic farming" at the annual Agricultural

QUOTE-OF-THE-MONTH

When tillage begins, other arts follow. The farmers, therefore, are the founders of civilization.

—Daniel Webster

Engineering Field Day at Iowa State University Research Farm.

A tractor with a four-row cultivator equipped with an electric steering device which worked a row of corn without an operator was the center of attraction. The tractor was lined up, the steering mechanism engaged, and then it was sent on its way down the row. Antennae followed the rows of corn and activated an electric motor which, coupled with the tractor's power steering, guided the machine around the field.

An operator is required to steer the tractor into place for a return trip at the end of the row, but it is visualized that even this small amount of steering could be eliminated by planting in continuous, circular rows.

Potentially, this system could lead to automatic farming. Right now the whole thing is experimental.

Coming Next Month

- Price Factors Affecting Potatoes
- Mississippi's Outstanding Grower and His 20 Vegetable Crops
- Former Mailman Now "Travels" His Vegetable Acres

AMERICAN VEGETABLE GROWER

Your Best Foot . . .

COMMUNITY, county, district, and state fairs will soon be in full swing. If you expect to exhibit vegetables at these fairs, you had better begin planning your exhibits.

Growers are advised to select for show purposes vegetable specimens that are uniform in size, shape, and color; free from insect and disease blemishes; fresh, clean, with good "eye appeal".

It is also suggested that the specimens exhibited should be of medium or good market size. Overgrown or small specimens should not be selected. All specimens in an exhibit should be as nearly alike as "peas in a pod".

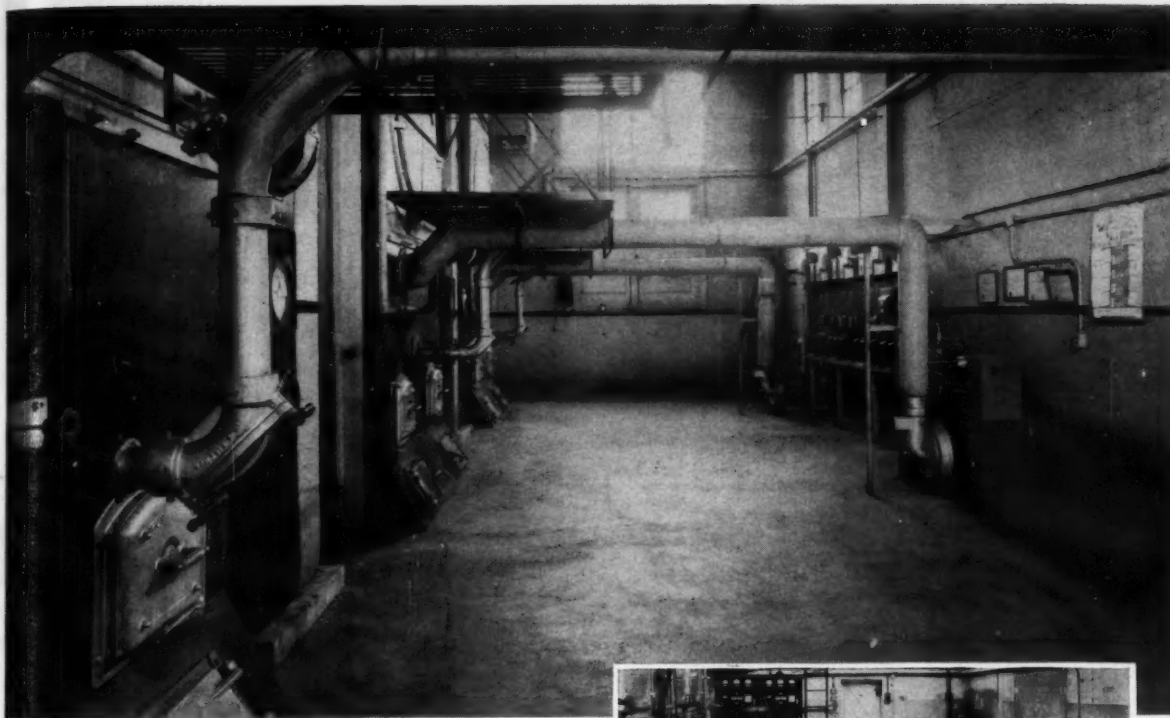
Vegetables that meet these qualifications are sure to be awarded blue ribbons. Housewives who see them—the vegetables we mean—will drool over them, wonder why such beautiful produce doesn't "make" the grocer's shelves.

We dare say that most growers who produce "blue ribbon" vegetables send quality products to the market. Perhaps, then, it's the growers who

VEGETABLE CONVENTION



"Why this one feels warm!"



The Iron Fireman Pneumatic Spreader stoker pipes coal to the fire and sprays it over the fuel bed. It fires coal of almost any grade from lignite to the best bituminous in sizes from 1/4" slack to 2" top size. Coal bunkers can be located most anywhere, even two stories below the firing floor.

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3. Automatic controls accurately pace the fire to the load, keeping fuel and air in perfect balance.

You will be pleased at the precision, cleanliness and economy of modern Iron Fireman coal firing techniques. Not only do these automatic stokers cut hand labor, but they operate with such high efficiency that they will fire even the lowest and cheapest grades of coal—grades that are not suitable for hand firing.

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